CLAIMS

1. A monocomponent-molded composition of a blend of a soft thermoplastic copolyether ester elastomer and a hard polyester resin reinforced with a fibrous or particulate filler, the molded composition having an inhomogeneous structure comprising an inner part and a surface part, the surface part being rich in the elastomer and poor in the polyester resin and the reinforcing filler compared to the inner part, said composition being obtained by monocomponent molding of a blend of the elastomer and the hard polyester resin wherein the elastomer has a flex modulus less than 0.1 GPa and a melting point in the range 155-200°C, the hard polyester resin has a flex modulus of at least 2.0 GPa and a melting point in the range 210-230°C, and only the hard polyester resin is reinforced with the particulate filler.

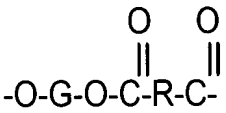
2. The molded composition of claim 1 which has a flex modulus Fm in the range 0.5 to 10 GPa.

3. The molded composition of claim 2 which has a flex modulus Fm in the range 1 to 8 GPa.

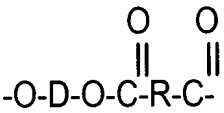
4. The molded composition of claim 1 which maintains a minimum tan delta damping factor t_ over a temperature range of -50°C to 170°C according to the formula:

$$t_{\_} = -0.0159 \mathrm{Ln}(Fm) + 0.0383.$$

5. The molded composition of claim 1 wherein the copolyether ester elastomer consists essentially of a multiplicity of recurring long chain ester units and short chain ester units joined head-to-tail through ester linkages, said long chain ester units being represented by the formula



and said short chain ester units being represented by the formula



where G is a divalent radical remaining after removal of terminal hydroxyl groups from a poly(alkylene oxide) glycol having a molecular weight of about 400-6000 and a carbon-to-oxygen ratio of about 2.0-4.3; R is a divalent radical remaining after removal of carboxyl groups from a dicarboxylic acid having a molecular weight less than about 300 and D is a divalent radical remaining after removal of hydroxyl

groups from a diol having a molecular weight less than about 250; provided said short chain ester units amount to about 15-95% by weight of said copolyether ester.

6. The molded composition of claim 1 wherein the hard polyester resin is polybutylene terephthalate.

7. The molded composition of claim 1, comprising from 20 to 70 weight percent of copolyether ester elastomer and from 30 to 80 weight percent of the reinforced polyester resin, based on the total weight of the composition

8. The molded composition of claim 7, comprising from 30 to 60 weight percent of copolyether ester elastomer, and from 40 to 70 weight percent of the reinforced polyester resin, based on the total weight of the composition.

9. The molded composition of claim 1, wherein the filler makes up between 5 and 50% by weight of the reinforced polyester resin, and between 2.5% and 30% of the total.

10. The molded composition of claim 1 which is a noise-damping component.

11. The molded composition of claim 10 which is a component of an electrical apparatus.

12. The molded composition of claim 11 which is a relay component or a fuse box.

13. The molded composition of claim 10 which is a component of a domestic electrical appliance, an elevator an air-conditioning apparatus or a powertool.

14. The molded composition of claim 1 which is a noise-damping component of a vehicle.

15. A method of producing a molded composition of a blend of a soft thermoplastic copolyether ester elastomer and a hard polyester resin reinforced with a fibrous or particulate filler, the method comprising monocomponent molding of a blend of the elastomer and the hard polyester resin wherein the elastomer has a flex modulus less than 0.1 GPa and a melting point in the range 155-200°C, the hard polyester resin has a flex modulus of at least 2.0 GPa and a melting point in the range 210-230°C, and only the polyester resin is reinforced with the particulate filler, to produce a molded composition having an inhomogeneous structure comprising an inner part and a surface part, the surface part being rich in the elastomer and poor in the polyester resin and the reinforcing filler compared to the inner part.

16. The method of claim 15, wherein the resulting molded composition has a flex modulus Fm in the range 0.5 to 10 GPa.

17. The method of claim 15, wherein the resulting molded composition maintains a minimum tan delta damping factor t_ over a temperature range of -50°C to 170°C according to the formula:

$$t\_ = -0.0159 \mathrm{Ln}(Fm) + 0.0383.$$